I claim:

1.   A method for transporting data, comprising:

transmitting, through a Synchronized Packet-Based Trunk, data to a communication ring, wherein the communication ring employs Dynamic Bandwidth Sharing; and

transporting, through the communication ring, the data.

2.   A method for transporting data, comprising:

transporting, through a communication ring employing Dynamic Bandwidth Sharing, data; and

receiving, through a Synchronized Packet-Based Trunk, the data from the communication ring.

3.   A Synchronized Packet-Based Trunk method for transporting data, comprising:

transmitting a Frame Synchronization Packet through a communication channel at the beginning of a Frame Cycle, wherein the Frame Cycle has a predetermined duration;

accumulating a set of synchronous data;

accumulating a set of asynchronous data;

transmitting the set of synchronous data through the communication channel during the Frame Cycle; and

transmitting a portion of the set of asynchronous data through the communication channel during the Frame Cycle, wherein the portion is selected responsive to the size of the Frame Synchronization Packet, the size of the transmitted set of synchronous data, and the duration of the Frame Cycle.

4.   The Synchronized Packet-Based Trunk method for transporting data of Claim 3, wherein the transmitted set of synchronous data is transmitted in at least one TDM Packet.

26473.106.US01

5. The Synchronized Packet-Based Trunk method for transporting data of Claim 3, wherein the transmitted portion of asynchronous data is transmitted in at least one Asynchronous Data Packet

6. A Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring, comprising:

assigning, to each node of a plurality of nodes on a communication ring, a Maximum Over-Subscription Bandwidth;

setting, at each node of the plurality of nodes, an Access Bandwidth, wherein the Access Bandwidth is initially equal to the Maximum Over-Subscription Bandwidth;

adjusting, at each node of the plurality of nodes, the Access Bandwidth after the node receives a congestion signal; and

adjusting, at each node of the plurality of nodes, the Access Bandwidth after the node receives a congestion cleared signal.

7. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising assigning, to each node of the plurality of nodes, an Acceptable Over-Subscription Bandwidth; and wherein the Access Bandwidth of each node is not adjusted to a value less than the Acceptable Over-Subscription Bandwidth of that node.

8. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 7, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive to the position of the node in the communication ring, a randomizing process, a duration of Congestion, the Acceptable Over-Subscription Bandwidth, and the Maximum Over-Subscription Bandwidth.

9. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive to the position of the node in the communication ring.

26473.106.US01

10. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive to a randomizing process.

11. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6 wherein adjusting the Access Bandwidth after the node receives a congestion cleared signal is performed at predetermined intervals until the Access Bandwidth is adjusted to a value equal to the Maximum Over-Subscription Bandwidth for the node.

12. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the node receives a congestion cleared signal is responsive to a randomizing process.

13. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising generating, at each node of the plurality of nodes and responsive to Congestion at the node, the congestion signal.

14. The Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising generating, at each node of the plurality of nodes and responsive to clearing Congestion at the node, the congestion cleared signal.

15. An apparatus for transporting data, comprising:

means for transmitting, through a Synchronized Packet-Based Trunk, data to a communication ring, wherein the communication ring employs Dynamic Bandwidth Sharing; and

means for transporting, through the communication ring, the data.

16. An apparatus for transporting data, comprising:

means for transporting, through a communication ring employing Dynamic Bandwidth Sharing, data; and

26473.106.US01

means for receiving, through a Synchronized Packet-Based Trunk, the data from the communication ring.

17.   A Synchronized Packet-Based Trunk apparatus for transporting data, comprising:

means for transmitting a Frame Synchronization Packet through a communication channel at the beginning of a Frame Cycle, wherein the Frame Cycle has a predetermined duration;

means for accumulating a set of synchronous data;

means for accumulating a set of asynchronous data;

means for transmitting the set of synchronous data through the communication channel during the Frame Cycle; and

means for transmitting a portion of the set of asynchronous data through the communication channel during the Frame Cycle, wherein the portion is selected responsive to the size of the Frame Synchronization Packet, the size of the transmitted set of synchronous data, and the duration of the Frame Cycle.

18.   The Synchronized Packet-Based Trunk apparatus for transporting data of Claim 17, wherein the transmitted set of synchronous data is transmitted in at least one TDM Packet.

19.   The Synchronized Packet-Based Trunk apparatus for transporting data of Claim 17, wherein the transmitted portion of asynchronous data is transmitted in at least one Asynchronous Data Packet

20.   A Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring, comprising:

means for assigning, to each node of a plurality of nodes on a communication ring, a Maximum Over-Subscription Bandwidth;

means for setting, at each node of the plurality of nodes, an Access Bandwidth, wherein the Access Bandwidth is initially equal to the Maximum Over-Subscription Bandwidth;

means for adjusting, at each node of the plurality of nodes, the Access Bandwidth after the node receives a congestion signal; and

means for adjusting, at each node of the plurality of nodes, the Access Bandwidth after the node receives a congestion cleared signal.

21. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, further comprising means for assigning, to each node of the plurality of nodes, an Acceptable Over-Subscription Bandwidth; and wherein the Access Bandwidth of each node is not adjusted to a value less than the Acceptable Over-Subscription Bandwidth of that node.

22. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 21, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive to the position of the node in the communication ring, a randomizing process, a duration of Congestion, the Acceptable Over-Subscription Bandwidth, and the Maximum Over-Subscription Bandwidth.

23. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the node receives a congestion signal is responsive to the position of the node in the communication ring.

24. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the node receives a congestion signal is responsive to a randomizing process.

25. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the node receives a congestion cleared signal is invoked at predetermined intervals until the Access Bandwidth is adjusted to a value equal to the Maximum Over-Subscription Bandwidth for the node.

26473.106.US01

26. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, wherein the means for adjusting the Access Bandwidth after the node receives a congestion cleared signal is responsive to a randomizing process.

27. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, further comprising means for generating, at each node of the plurality of nodes and responsive to Congestion at the node, the congestion signal.

28. The Dynamic Bandwidth Sharing apparatus for regulating bandwidth on a communication ring of Claim 20, further comprising means for generating, at each node of the plurality of nodes and responsive to clearing Congestion at the node, the congestion cleared signal.

26473.106.US01